

FORM PTO-1390 (Modified)
(REV 10-95)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

FA-1035

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR)

10/069096

INTERNATIONAL APPLICATION NO.
PCT/EP00/04121

INTERNATIONAL FILING DATE
9 MAY 2000 (09.05.00)

PRIORITY DATE CLAIMED
10 MAY 1999 (10.05.99)

TITLE OF INVENTION

DECORATIVELY ENAMELED PLASTIC MOLDED PARTS FOR MOTOR VEHICLES

APPLICANT(S) FOR DO/EO/US

BLUM, Joachim et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to being national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b)) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application was filed (35 U.S.C. 371 (c) (2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau.
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U.S.C. 371 (c) (2)).
7. ☒ A copy of the International Search Report (PCT/ISA/210).
8. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c) (3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
9. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371 (c)(3)).
10. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
11. ☒ A copy of the International Preliminary Examination Report (PCT/IPEA/409)
12. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).

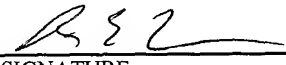
Items 13 to 18 below concern document(s) or information included :

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☒ A **FIRST** preliminary amendment.
A **SECOND** or **SUBSEQUENT** preliminary amendment.
16. ☐ A substitute specification.
17. ☒ A change of power of attorney and/or address letter.
18. ☒ Certificate of Mailing by Express Mail.
19. ☒ Other items or information:

17. General Power of Attorney

18. Express Mailing Label No.: EJ376014379US

19. Associate Power of Attorney

APPLICATION NO. (IF KNOWN, SEE 37 CFR) 10/069096		INTERNATIONAL APPLICATION NO. PCT/EP00/04121		ATTORNEY'S DOCKET NUMBER FA-1035	
20. The following fees are submitted					CALCULATIONS PTO USE ONLY
BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) – (5)) :					
<input checked="" type="checkbox"/> Search Report has been prepared by the EPO or JPO				\$890.00	
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482)				\$710.00	
<input type="checkbox"/> No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2))				\$740.00	
<input type="checkbox"/> Neither international preliminary examination fee paid to USPTO (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO				\$1,040.00	
<input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482)				\$100.00	
And all claims satisfied provisions of PCT Article 33(2)-(4)					\$100.00
ENTER APPROPRIATE BASIC FEE AMOUNT =					\$890.00
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492 (e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30					\$0.00
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	28 - 20 =	8 x	\$18.00	\$144.00	
Independent Claims	5 - 3 =	8 x	\$80.00	\$168.00	
Multiple Dependent Claims (check if applicable)			<input type="checkbox"/>	\$0.00	
TOTAL OF ABOVE CALCULATIONS =					\$312.00
Reduction of ½ for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable). <input type="checkbox"/>					\$0.00
SUBTOTAL =					\$312.00
Processing Fee of \$130.00 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR 1.492 (f)). <input type="checkbox"/> 20 <input type="checkbox"/> 30					\$0.00
TOTAL NATIONAL FEE =					\$1,202.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). <input type="checkbox"/>					\$0.00
TOTAL FEES ENCLOSED =					\$1,202.00
					Amount to be : Refunded \$
					Charged \$
<input type="checkbox"/> A check in the amount of _____ to cover the above fees enclosed. <input checked="" type="checkbox"/> Please charge my Deposit Account No. 04-1928 in the amount of \$1,202.00 to cover the above fees. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 04-1928 a duplicate copy of this sheet is enclosed.					
NOTE : Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (CFR 1.37(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:					
LERMAN, BART E. E. I. DU PONT DE NEMOURS AND COMPANY Legal Patent Records Center 1007 Market Street Wilmington, Delaware 19898 United States of America			 SIGNATURE LERMAN, BART E. NAME 31,897 REGISTRATION NUMBER 08 NOVEMBER 2001 DATE		

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Blum et al.

Art Unit: UNKNOWN

Serial No.: UNKNOWN

Examiner: UNKNOWN

Filed: Concurrently Herewith

Atty. Docket: FA1035

For: DECORATIVELY ENAMELED PLASTIC
MOLDED PARTS FOR MOTOR
VEHICLESAssistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

It is respectfully requested that the Examiner enter these amendments prior to examination of the above-identified application on its merits. Please amend the application as follows:

IN THE CLAIMS:

Please delete claims 1-9 without prejudice to the Applicants.

Please add new claims 10-37 as follows:

10. A decorative plastic molded part comprising:

a substantially transparent plastic material having a front face and a rear face, wherein the rear face is turned away from an observer; and

at least one opaque lacquer layer disposed directly upon the rear face, wherein the lacquer is selected from the group consisting of colored lacquer, effect-producing lacquer and combinations thereof.

11. The decorative plastic molded part according to claim 10, wherein a transparent coating is disposed upon the front face.

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12. The decorative plastic molded part according to claim 11, wherein the transparent coating is selected from the group consisting of clear lacquer and transparent plastics films.
13. The decorative plastic molded part according to claim 10, wherein at least one of the faces has a smooth high-gloss surface.
14. The decorative plastic molded part according to claim 13, wherein the rear face has a smooth high-gloss surface.
15. The decorative plastic molded part according to claim 10, wherein at least one of the faces has raised sections or indentations.
16. The decorative plastic molded part according to claim 10, wherein the rear face is untreated.
17. The decorative plastic molded part according to claim 10, wherein the rear face is pretreated.
18. The decorative plastic molded part according to claim 10, wherein the substantially transparent plastic material is completely transparent.
19. The decorative plastic molded part according to claim 10, wherein the substantially transparent plastic material contains at least one of dyes, absorption pigments in non-opacifying amounts, effect pigments in non-opacifying amounts or combinations thereof.
20. The decorative plastic molded part according to claim 10, further comprising an auxiliary substance, wherein said substance is selected from the group consisting of silicon dioxide, microtitanium dioxide, and glass fibers and combinations thereof.

21. The decorative plastic molded part according to claim 10, wherein the substantially transparent plastic material is selected from the group consisting of elastomers, thermoset materials, and thermoplastic materials.
22. The decorative plastic molded part according to claim 21, wherein the substantially transparent plastic material is selected from the group consisting of polycondensates, polyesters, polyethers, poly(meth)acrylate plastics, acrylonitrile/styrene/acrylate plastics, and any transparent blends thereof.
23. The decorative plastic molded part according to claim 10, wherein at least one transparent coating is disposed upon the front face.
24. The decorative plastic molded part according to claim 23, wherein the at least one transparent coating is a transparent plastics film.
25. The decorative plastic molded part according to claim 24, wherein the transparent plastics film further comprises effect pigments.
26. The decorative plastic molded part according to claim 23, wherein the at least one transparent coating is a lacquer.
27. The decorative plastic molded part according to claim 24, wherein a lacquer is disposed upon said at least one transparent plastics film.
28. The decorative plastic molded part according to claim 24, wherein a non-opacifying image is disposed upon said at least one transparent plastics film.
29. The decorative plastic molded part according to claim 24, wherein the at least one transparent plastics film is selected from the group consisting of colorless transparent plastics films and transparently colored plastics film.

30. The decorative plastic molded part according to claim 10, wherein the plastic molded part is selected from the group consisting of bumpers, anti-bump strips, side panels, sills, mirror housing, door handles, engine bonnets, boot lids, tailgates, wings, spoilers and hub caps.
31. A process for applying a color effect-producing layer on a substantially transparent plastic material having a front face and a rear face, wherein the rear face is turned away from an observer, comprising the steps of:
- (a) pretreating the rear face of the substantially transparent plastic material with a pretreatment selected from the group consisting of a physical/chemical treatment, an adhesion-promoting coating and combinations thereof; and
 - (b) applying at least one opaque lacquer layer disposed directly upon the rear face, wherein the lacquer is selected from the group consisting of colored lacquer, effect-producing lacquer and combinations thereof.
32. The process according to claim 31, wherein the pretreatment is selected from the group consisting of corona treatment, plasma treatment, flame treatment, irradiating with ultraviolet light, and combinations thereof.
33. A process for preparing decorative plastic molded parts having a front face and a rear face, comprising the steps of:
- (a) subjecting the rear face of a substantially transparent plastic material, wherein the rear face is turned away from an observer to a treatment to promote adhesion; and
 - (b) applying a color and/or effect-producing lacquer.
34. The process according to claim 33, wherein the color and/or effect producing lacquer has a thickness of 10 to 30 μm .

35. A process for preparing decorative plastic molded parts comprising the steps of:

(a) applying a transparent adhesion-promoting coating to the plastic molded parts; and

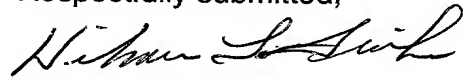
(b) applying a color and/or effect-producing lacquer over the adhesion-promoting coating.

36. The process according to claim 29, wherein the color and/or effect producing lacquer has a thickness of 10 to 30 μm .

37. A process for preparing a substantially transparent plastic molded part comprising the step of:

(a) applying a color and/or effect-producing lacquer directly to a substantially transparent plastic molded part.

Respectfully submitted,



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Date: November 7, 2001

Decorative lacquered plastics moulded parts suitable for motor vehicles

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The invention provides decorative plastics moulded parts, in particular for the motor vehicle sector, a process for their production and their use.

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Plastics parts are being used to an increasing extent in the construction of cars, not least for weight reasons. Often, the visible surface of plastics parts is provided with a colour and/or effect-producing lacquer in order to give a decorative effect.

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A fundamental problem is the sensitivity to mechanical effects of the coloured and/or effect-lacquered plastics parts used in the car construction industry. Plastics lacquers are extraordinarily sensitive to scratching and the impact resistance of colour- and/or effect-lacquered plastics parts is low, in particular at low temperatures. These weaknesses appear in particular in the case of coloured and/or effect-lacquered plastics bumpers, anti-bump strips or panels. Plastics parts suffer considerable damage even on slight contact, for example inadvertent impacts when parking the vehicle, for example due to visibly obvious scratches in the external lacquer or even due to actual fracture of the plastics part.

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The object of the invention is the provision of decorative lacquered plastics parts with improved suitability for use in the motor vehicle sector, in particular in the car construction industry for the exterior of vehicles.

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The object can be achieved by transparent plastics parts which are lacquered on the rear face to provide a colour and/or effect so that the impression of colour can be perceived from the front face.

Thus, the invention provides plastics moulded parts which are suitable in particular for use in the motor vehicle sector and are characterised in that they consist of a transparent plastics material and the face turned away from the observer (the rear face) is provided with a colour- and/or effect-producing lacquer.

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The face of the plastics moulded part turned away from the observer is the opposite face from the visible surface after mounting, for example on a motor vehicle, and is also called the non-visible face or rear face for short in the following.

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The decorative lacquered plastics parts may be any plastics moulded parts at all such as are used, for example in the motor vehicle sector as mass-produced items or as special features, for example, bumpers, anti-bump strips, side panels, sills, mirror housings, door handles, engine bonnets, boot lids, tailgates, wings, spoilers, hub caps.

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It is an essential feature of the invention that the plastics parts consist of a transparent, preferably completely transparent, plastics material. Suitable transparent plastics materials include both elastomers which are known per se and also thermoplastic and thermoset materials which are known per se, preferably amorphous plastics materials. Examples are polycondensates, polyaddition products and polymers such as polycarbonates, polyesters such as e.g. polybutyleneterephthalate, polyamides, silicone plastics, polyethers such as e.g. polyoxymethylene, polypropylene oxide or polybutylene oxide, polyurethanes, polyureas, polyolefins, poly(meth)acrylate plastics such as polymethylmethacrylate, polystyrene, acrylonitrile/styrene and acrylonitrile/styrene/acrylate plastics and any transparent blends. Polycarbonates, polyesters, polymethylmethacrylate, polyamides, acrylonitrile/styrene/acrylate plastics are preferred.

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The transparent plastics parts may contain transparent pigments or auxiliary substances such as e.g. silicon dioxide, microtitanium dioxide, glass fibres. In this

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case the refractive indices of the plastics material and of the transparent pigment or auxiliary substance are preferably close to each other or correspond to each other.

To produce special effects, the plastics compositions for the transparent plastics parts, which are colourless in themselves, may be transparently coloured, for example, using dyes and/or may contain absorption pigments and/or effect pigments in small non-opacifying amounts.

Both the front visible face and the rear face of the transparent plastics part may have a completely smooth, high-gloss surface, or the surfaces may possess raised sections or indentations, for example in the form of an imprinted pattern or logo, in order to produce special effects. The surface of the rear face is preferably smooth. The front visible face has no colour- and/or effect-producing topcoat lacquer. It may be uncoated or coated transparently, for example provided with a transparent lacquer, in particular with a colourless clear lacquer layer. Instead of a lacquer, however, a transparent plastics film may also be used as a transparent coating, this being glued onto the front face of the transparent plastics part. Colourless transparent plastics films or transparently coloured plastics films are suitable as transparent plastics films. The transparent plastics films may also contain effect pigments. Furthermore, the transparent plastics films may also be lacquered and/or printed in a non-opacifying manner (e.g. in the form of a pattern or image). Either clear lacquer layers or monolayered or multilayered transparently coloured lacquers and/or effect lacquers are suitable as non-opacifying film lacquers.

It is an essential feature of the invention that the rear face of the transparent plastics parts is provided with a colour- and/or effect-producing monolayered or multilayered opaque lacquer. For this purpose, a colour- and/or effect-producing coating layer is applied directly to the untreated or pretreated rear face of the plastics part.

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Pretreatment of the rear face of the transparent plastics part is expedient in particular when, from experience, it is a plastics material to which lacquer coatings adhere only weakly. Pretreatment may consist, for example, of physically and/or chemically treating the rear face of the transparent plastics part to be colour and/or effect
5 lacquered and/or providing this face with a transparent adhesion-promoting coating. These are methods which are well-known from the area of plastics parts lacquering for producing adequate adhesion. Examples of physical and chemical methods which may be used for treating the rear face of transparent plastics parts are corona treatment, plasma treatment, flame treatment, irradiating with ultraviolet light,
10 optionally in the presence of photoinitiators which decompose to form radicals, etching with aggressive chemical agents, for example with fluorine or sulfur trioxide. One method only or a combination of methods of treatment may be used. These may take place simultaneously or in sequence. Flame treatment or plasma treatment are the preferred methods of treatment. However, a transparent adhesion-
15 promoting coating is particularly preferably applied to the optionally physically and/or chemically treated rear face before the colour-and/or effect-producing coating is applied. The rear face is preferably not physically and/or chemically treated and only a transparent adhesion-promoting coating is applied before applying the colour-and/or effect-producing coating. Application of the transparent adhesion-promoting
20 coating may preferably be achieved by spraying.

The transparent adhesion-promoting coating may be applied using a conventional adhesion-promoting coating agent. Adhesion-promoting coating agents are liquid water-based coating agents or coating agents based on organic solvents. For
25 example, in the region of plastics lacquering, these are conventional adhesion promoters, for example epoxide/amine or polyurethane systems. The transparent adhesion-promoting coating agents preferably contain one or more adhesion-promoting active constituents. The adhesion-promoting components may be present as such on their own or as additives in combination with binders or binder systems.
30 The amount of adhesion-promoting components in adhesion-promoting coating agents is, for example, between 2 and 25, preferably between 3 and 20 wt.%. The

adhesion-promoting coating agents are, in particular, those which are known from or are recommended for the area of lacquering plastics parts made of polyolefin plastics such as, for example, polyethylene or polypropylene. They are preferably applied by spraying, generally in a dry layer thickness of for example between 1 and 30 μm , depending on the type of adhesion-promoting coating agent. Before further overpainting with the colour- and/or effect-producing coating agent, the transparent adhesion-promoting coatings produced from the adhesion-promoting coating agents are generally dried, or in the case of the presence of a chemically curable binder system, cured, for example at temperatures between 20 and 130°C.

Examples of preferred adhesion-promoting components are polyolefins which are chlorinated and/or provided with carboxyl groups, for example by maleinisation (reaction with maleic anhydride) and optionally chemically further modified. Chlorine-containing polyolefins are preferred. They have, for example, number average molecular weights of 5000 to 50000. The chlorine content is, for example, 10 to 40 wt.%.
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Therefore the invention also provides, in one embodiment, a process for preparing plastics moulded parts according to the invention which is characterised in that the face turned away from the observer of a transparent plastics moulded part is subjected to a physical and/or chemical treatment to promote adhesion and/or is provided with a transparent adhesion-promoting coating and is then provided with a colour- and/or effect-producing lacquer.

In another embodiment, the invention also provides a process for preparing plastics moulded parts according to the invention which is characterised in that the face turned away from the observer of a transparent plastics moulded part is provided directly with a colour- and/or effect-producing lacquer.

According to the invention, a colour- and/or effect-producing coating is applied in a dry layer thickness of for example 10 to 30 μm to the rear face of the transparent plastics part, optionally physically and/or chemically treated and/or provided with a transparent adhesion-promoting coating as explained above, this can for example, preferably be achieved by spraying. Conventional topcoat lacquers or preferably conventional base lacquers such as are used to prepare colour- and/or effect-producing base lacquer layers within base lacquer/clear lacquer two-layered lacquers may be used as colour- and/or effect-producing coating agents and are known in large numbers, for example from the patent literature.

The base lacquers may be physically drying or be cross-linkable with the formation of covalent bonds. Base lacquers which cross-link with the formation of covalent bonds may be conventional internally or externally cross-linking systems. The base lacquers are liquid coating agents. They may be single-component or multi-component coating agents, single-component agents being preferred. The base lacquers are based on organic solvents or, preferably, are water-based base lacquers.

The base lacquers are conventional lacquer systems which contain one or more conventional binders as film-producing binders. They may, if the binders are not internally cross-linking or self-drying, optionally also contain a cross-linking agent. Neither the binder component nor the cross-linking component is subject to any kind of restriction. Polyester, polyurethane and/or (meth)acrylic copolymer resins, for example, may be used, as film-producing binders. The choice of the optionally present cross-linking agent is not critical, it is governed by the functionality of the binder.

In addition to conventional physically drying and/or chemically cross-linking binders, the base lacquer contains inorganic and/or organic coloured pigments and/or effect pigments such as e.g. titanium dioxide, iron oxide pigments, carbon black, azo pigments, phthalocyanine pigments, quinacridone pigments, metal pigments, e.g.

titanium, aluminium or copper, interference pigments such as e.g. titanium dioxide coated aluminium, coated mica, graphite effect pigments, platelet-shaped iron oxide, platelet-shaped copper phthalocyanine pigments.

- 5 Furthermore, the base lacquers may contain conventional lacquer additives such as e.g. fillers, catalysts, flow control agents, bonding agents, anti-crater agents or light stabilisers, optionally in combination with antioxidants.

- 10 In particular when the plastics parts according to the invention are intended to be the same colour as the colour of the bodywork, it is expedient to use the same base lacquer for lacquering the rear face of the transparent plastics parts as for lacquering the bodywork of the motor vehicle.

- 15 The colour- and/or effect-producing coating applied according to the invention to the rear face of transparent plastics parts may be a final coating. As sealant, however, one or more further coatings may also be applied to the colour- and/or effect-producing coating and/or one or more protective films may be glued to the coating. Both steps may be used to protect the colour- and/or effect-producing coating located thereunder, for example to protect from physical and/or chemical effects.
- 20 The further coating or protective film may be a transparent or opaque, light-proof coating or a transparent or opaque light-proof film respectively. The use of an opaque, light-proof coating or film is expedient in particular when the colour- and/or effect-producing coating is applied in a non-opaque layer thickness.

- 25 The invention also provides the use of decorative lacquered plastics parts according to the invention in the motor vehicle sector, in particular for applications on the exterior of the vehicle, for example, as bumpers, anti-bump strips, side panels, sills, mirror housings, door handles, engine bonnets, boot lids, tailgates, wings, spoilers, hub caps.

Plastics parts according to the invention are mounted on the outside of a motor vehicle, for example clipped on, screwed on or glued on. They are mounted in such a way that the coloured and/or effect lacquered rear face of the plastics parts according to the invention is fixed as the face turned away from the observer. Plastics parts according to the invention may have exactly the same colour as the colour of the body or may differ from the colour of the body, for example the plastics part may have a colour which contrasts with that of the actual colour of the bodywork.

Plastics parts according to the invention are motor vehicle parts which are regarded as decorative in the eye of the observer. In the case of effect-lacquered plastics parts according to the invention, the impression of the effect is very noticeable. Plastics parts according to the invention are less sensitive to scratching and more mechanically stable than corresponding plastics parts according to the prior art which are coloured and/or effect-lacquered on the visible surface.

Example 1 (comparison)

A black water-based base lacquer is sprayed in an opaque dry layer thickness of 18 μm onto a specimen sheet of grey-coloured polycarbonate. After allowing evaporation for 5 minutes at 80°C, this is overpainted in a dry layer thickness of 40 μm with a commercially available two-component PU clear lacquer by compressed air spraying and dried for 30 minutes at 85°C (oven temperature). The lacquer is scratched and some is scraped off by scraping with the blade of a knife. The damage is visually very obvious no matter what the angle of observation and also from a distance of greater than 1 to 2 metres, the grey substrate is visible at the site of damage.

Example 2 (comparison)

10 A black water-based base lacquer is sprayed in an opaque dry layer thickness of 18
µm onto a specimen sheet of clear transparent polycarbonate. After allowing
5 evaporation for 5 minutes at 80°C, this is overpainted in a dry layer thickness of 40
µm with a commercially available two-component PU clear lacquer by compressed
air spraying and dried for 30 minutes at 85°C (oven temperature). The lacquer is
scratched and some is scraped off by scraping with the blade of a knife. The damage
is visually very obvious no matter what the angle of observation and also from a
10 distance of greater than 1 to 2 metres.

Example 3 (according to the invention)

15 A black water-based base lacquer is sprayed in an opaque dry layer thickness of 18
µm onto a specimen sheet of clear transparent polycarbonate. After allowing
evaporation for 5 minutes at 80°C, this is overpainted in a dry layer thickness of 40
µm with a commercially available two-component PU clear lacquer by compressed
air spraying and dried for 30 minutes at 85°C (oven temperature). The unlacquered
face of the specimen sheet is scratched at one place by scraping with the blade of a
20 knife. The damage is visually obvious only at almost a ninety degree angle of
observation. When observed from a distance of greater than 1 to 2 metres, the
damaged place is visually inconspicuous. The impression of colour is retained
because the colour-producing lacquer on the rear face is undamaged.

25 **Example 4 (according to the invention)**

A black water-based base lacquer is sprayed in an opaque dry layer thickness of 18
µm onto a specimen sheet of clear transparent polycarbonate. After allowing
evaporation for 5 minutes at 80°C, this is overpainted in a dry layer thickness of 40
30 µm with a commercially available two-component PU clear lacquer by compressed

air spraying. In addition, the uncoated face on the other side of the specimen sheet is overpainted in a dry layer thickness of 40 μm with the two-component PU clear lacquer. Then the sheet is dried for 30 minutes at 85°C (oven temperature). The clear lacquer layer applied directly to the plastics surface is scratched and some is scraped off by scraping with the blade of a knife. The damage is visually obvious only at almost a ninety degree angle of observation. When observed from a distance of greater than 1 to 2 metres, the damaged place is visually inconspicuous. The impression of colour is retained because the colour-producing lacquer on the rear face is undamaged.

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Claims

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1. Plastics moulded parts, in particular for the motor vehicle sector, characterised in that they consist of a transparent plastics material and the face turned away from the observer (rear face) is provided with a colour- and/or effect-producing lacquer.

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2. Plastics moulded parts according to Claim 1 for the motor vehicle sector in the form of bumpers, anti-bump strips, side panels, sills, mirror housings, door handles, engine bonnets, boot lids, tailgates, wings, spoilers and hub caps.

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3. Plastics moulded parts according to Claim 2, characterised in that the face turned away from the observer is lacquered with the same base lacquer as is used to lacquer the remainder of the motor vehicle bodywork.

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4. Plastics moulded parts according to Claim 1, 2 or 3, characterised in that the face turned towards the observer is provided with a transparent coating.

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5. A process for producing plastics moulded parts according to one of Claims 1 to 4, characterised in that the face which is turned away from the observer of a transparent plastics moulded part is provided with a colour- and/or effect-producing lacquer.

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6. A process according to Claim 5, characterised in that the face which is turned away from the observer of a transparent plastics moulded part is subjected to physical and/or chemical treatment to promote adhesion and/or is provided

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with a transparent adhesion-promoting coating layer and is then provided with a colour- and/or effect-producing lacquer.

- 5 7. A process according to Claim 5 or 6, characterised in that one or more further coating layers and/or protective films are applied to the colour- and/or effect-producing lacquer.
8. Use of the plastics moulded parts according to one of Claims 1 to 4 in the motor vehicle sector.
- 10 9. Use according to Claim 8 on the exterior of motor vehicles.

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Abstract

5

Plastics moulded parts, suitable for the motor vehicle sector, consisting of a transparent plastics material the rear face of which is provided with a colour- and/or effect-producing lacquer.

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DECLARATION and POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Decorative lacquered plastics moulded parts suitable for motor vehicles
the specification of which is attached hereto unless the following box is checked:

EPO0/04121

☒ was filed on 09.05.2000 as U.S. Application No. _____ or PCT International Application No. _____ and was amended on 03.03.2001 (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Application No.	Country	Filing Date	Priority Claimed (Yes/No)
199 21 646.0	DE	10.05.1999	yes

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States Provisional Application(s) listed below.

U.S. Provisional Application No.

U.S. Filing Date

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application or PCT International Application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is known to me to be material to patentability as defined in 37 CFR § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

Application No.	Filing Date	Status (patented, pending or abandoned)
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POWER OF ATTORNEY: I hereby appoint the following attorney(s) and/or agent(s) the power to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Name: STEVEN C. BENJAMIN	Registration No.: 36,087
Send correspondence and direct telephone calls to: STEVEN C. BENJAMIN	E. I. du Pont de Nemours and Company Legal - Patents Wilmington, DE 19898, U.S.A. Tel. No. (302) 892-7916 Fax No. (302) 992-2533

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

INVENTOR(S)

Full Name of Inventor 1 - <u>CO</u>	Last Name <u>BLUM</u>	First Name <u>Joachim</u>	Middle Name
Signature (please sign full name): <u>[Signature]</u>		Date: <u>September 20/01</u>	
Residence & Citizenship	City <u>Remscheid</u> <u>DEX</u>	State or Foreign Country <u>Germany</u>	Country of Citizenship <u>Germany</u>
Post Office Address	Post Office Address <u>Johann Scheibler Str.14</u>	City <u>D-42897 Remscheid</u>	State or Country <u>Germany</u> Zip Code

☐ Additional Inventors are being named on separately numbered sheets attached hereto.

GENERAL POWER OF ATTORNEY
(Concerning Several International Patent Applications)

The undersigned, Vernon R. Rice, Vice President and Assistant General Counsel of E. I. DU PONT DE NEMOURS AND COMPANY, 1007 Market Street, Wilmington, Delaware 19898 USA ("DuPont"), hereby confirms that the power to sign for DuPont has been granted to various individuals (as set forth in the attached excerpt from DuPont's Patent Board Rules of Procedure (January 1988), Appendix Section III.A.4), including the Chairman, Vice-Chairman, and those individuals who are Assistant Secretaries of the Patent Board. Currently these Assistant Secretaries are:

Roger A. Bowman
Linda J. Davis
John E. Griffiths

Barbara J. Massie
Miriam D. Meconnahey
Deborah A. Meginniss

In addition, the authority to act on behalf of DuPont before the competent International Authorities in connection with any and all international patent applications filed by it with the United States as Receiving Office and to make or receive payments on its behalf is hereby granted to:

Beardell, Lori Y.	34,293	Katz, Elliott A.	26,396
Belopolsky, Inna	43,319	Kelly, Patricia L.	39,247
Benjamin, Steven C.	36,087	King, Karen K.	34,850
Birch, Linda D.	38,719	Kuller, Mark D.	31,925
Bowen, Jr., Alanson G.	24,027	Krukiel, Charles E.	27,344
Christenbury, Lynne M.	30,971	Jarnholm, Arne R.	30,396
Cotreau, William J.	36,490	Langworthy, John A.	32,255
Deitch, Gerald E.	30,457	Lerman, Bart E.	31,897
Deshmukh, Sudhir	33,677	Levitt, Cary A.	31,848
Dobson, Kevin S.	40,296	Magee, Thomas H.	27,355
Duffy, Roseanne R.	33,869	Mayer, Nancy S.	29,190
Edwards, Mark A.	39,542	Medwick, George M.	27,456
Estrin, Barry	26,452	Morrisey, Bruce W.	30,663
Evans, Craig H.	31,825	Reynolds, Stephen E.	37,580
Fair, Tamera L.	35,867	Rizzo, Thomas M.	41,272
Feltham, S. Neil	36,506	Santopietro, Lois A.	36,264
Floyd, Linda Axamethy	33,692	Schaeffer, Andrew L.	33,605
Fricke, Hilmar L.	22,384	Sebree, Chyrea J.	45,348
Furr, Robert B.	32,985	Shay, Lucas K.	34,724
Golian, Andrew G.	25,293	Shipley, James E.	32,003
Golian, Paul D.	42,591	Siegehl, Barbara C.	30,684
Gorman, Thomas W.	31,959	Sinnott, Jessica M.	34,015
Gould, David J.	25,338	Steinberg, Michael A.	43,160
Griffiths, John E.	32,647	Steinberg, Thomas W.	37,013
Hamby, Jane O.	32,872	Stevenson, Robert B.	26,039
Hamby, William H.	31,521	Strickland, Frederick D.	39,041
Heiser, David E.	31,366	Tulloch, Rebecca W.	36,297
Hendrickson, John S.	30,847	Walker, P. Michael	32,602
Joung, J. Kenneth	41,881	Wang, Chen	38,650

The undersigned ratifies fully all actions already taken by the above-named individuals in accordance with the authority granted hereby.

E. I. DU PONT DE NEMOURS AND COMPANY

By: 

Vernon R. Rice

Vice President and Assistant General Counsel

9-8-01

INVENTOR(S)

Full Name of Inventor 2-00	Last Name MASS	First Name Manfred	Middle Name
	Signature (please sign full name): <i>Manfred Mass</i>		Date: <i>Sept. 24/01</i>
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Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
Post Office Address	Post Office Address	City	State or Country Zip Code
Full Name of Inventor	Last Name	First Name	Middle Name
	Signature (please sign full name):		Date:
Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
Post Office Address	Post Office Address	City	State or Country Zip Code
Full Name of Inventor	Last Name	First Name	Middle Name
	Signature (please sign full name):		Date:
Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
Post Office Address	Post Office Address	City	State or Country Zip Code
Full Name of Inventor	Last Name	First Name	Middle Name
	Signature (please sign full name):		Date:
Residence & Citizenship	City	State or Foreign Country	Country of Citizenship
Post Office Address	Post Office Address	City	State or Country Zip Code

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of:

BLUM, ET AL.

CASE NO: FA1035

APPLICATION NO.: UNKNOWN

GROUP ART UNIT: UNKNOWN

FILED: CONCURRENTLY HEREWITH

EXAMINER: UNKNOWN

FOR: DECORATIVELY ENAMELED PLASTIC
MOLDED PARTS FOR MOTOR VEHICLES

ASSOCIATE POWER OF ATTORNEY

Assistant Commissioner for Patents
Washington, DC 20231


Sir:

I hereby appoint HILMAR L. FRICKE (Registration No. 22,384) as associate attorney in the above-entitled application, to prosecute this application, to make alterations and amendments therein, to inspect the file, and to transact all business in the Patent and Trademark Office connected therewith.

Please address all future communications to the above-appointed associate attorney of record at the following new address:

E. I. du Pont de Nemours & Co.
1007 Market Street
Legal - Patents
Wilmington, Delaware 19898

Respectfully submitted,


STEVEN C. BENJAMIN
ATTORNEY FOR APPLICANTS
REGISTRATION NO. 36,087
TELEPHONE: 302-992-2236
FACSIMILE: 302-992-2533

Dated: 07 November 2001

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